

# Operating Instructions

# Kathrein Satellite Receiver UFD 346



Order-No.: 260413

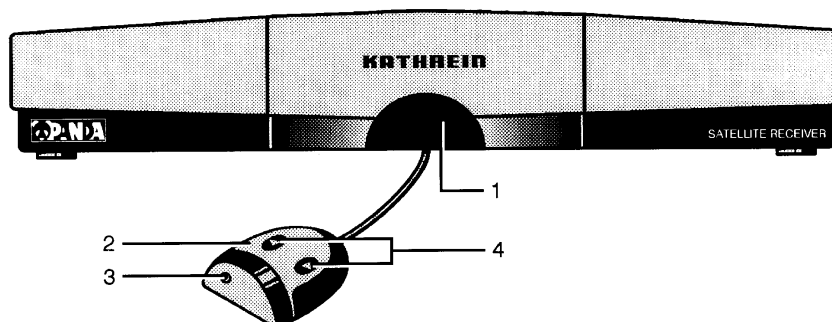
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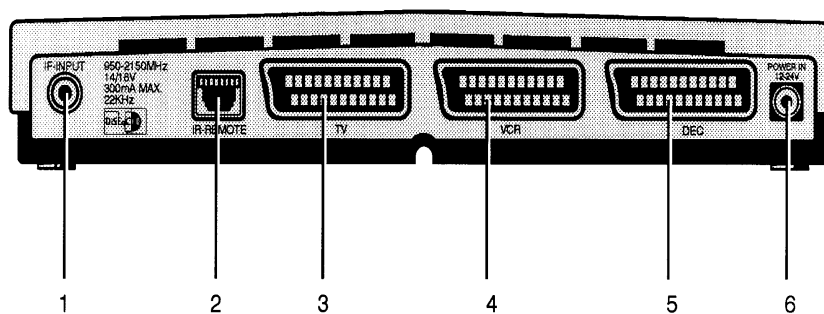
# Controls, displays and connection

In this section you will find a short description of all operating controls, the display and all connections as well as symbol description.

## Front Panel View



## Rear-panel View



## Remote Control View



# Controls, displays and connection

## Front Panel

- 1 **Infra-red sensor well**
- 2 **Movable Infra-red sensor**  
Receives the infra-red signal from the remote control. As long as the movable infra-red sensor is within the range of the remote controls infra-red signal it is possible to switch on a concealed receiver.
- 3 **Operating display (red LED)**  
LED is out when at "Stand-by"
- 4 **Program selection buttons**  
Step-through program selection (forwards and backwards). Switch from stand-by by pressing both buttons simultaneously.  
  
Switch between TV and Radio modes by pressing both buttons simultaneously.

## Rear Panel Connections

- 1 *Satellite ZF-signal input and LNB voltage-supply output*
- 2 *Infra-red sensor connection (8 pin Western socket)*
- 3 *TV scart-socket connection*
- 4 *VCR scart-socket connection*
- 5 *Decoder scart socket connection*
- 6 *12 - 24 V DC connection*

## Remote control operating buttons



**Function 1:**  
On/Off (Stand-by),  
**Warning!** Mains voltage is still present at receiver!  
**Function 2:**  
Reset from setting-up mode to normal operation



to Number buttons 0 - 9 for program selection and entering the frequencies



**Function 1:**  
Volume control  
**Function 2:**  
Select the individual menu options in Setting-up mode



**Function 1:**  
Calls-up the help menu  
**Function 2:**  
Calls-up "channel selection" menu,( for changing, entering and copying )  
(with **STORE** consecutively)



**Function 1:**  
Muting switch  
**Function 2:**  
Calls-up Audio-settings menu  
(with **STORE** consecutively)



Not used



**Function 1:**  
Calls-up TV/SAT-mode  
**Function 2:**  
Calls-up video-setting-up menu  
(with **STORE** consecutively)



Call-up picture tuning menu when receiving a weak signal



**Function 1:**  
Switching between operating instructions  
**Function 2:**  
Suppression of the video signal (in set-up mode)



**Function 1:**  
Switch to radio mode  
**Function 2:**  
Calls-up radio settings menu  
(with **STORE** consecutively)



**Function 1:**  
Program (steps through forwards and backwards)  
**Function 2:**  
Modify data in setting-up mode



**Function 1:**  
Saving the selected values  
**Function 2:**  
First button for calling-up the individual setting-up menus (i.e. video setting-up)



Stereo/Mono- (2 Channel) Switching

# Safety instructions

In the following section you will find important instructions for operating, locating and connecting the receiver. Read these instructions carefully before using the equipment.

## Important Locating and Setting-up Instructions



### Long absence/Lightning

If you are going to be away for a long period, switch off the receiver at the mains. If you are using the receiver and lightening starts, also switch off at the mains.

Note your timer settings and when you switch the receiver back on, reset the timer to record your programs.

### Power Cable

Please ensure that your power cable (mains supply cable) is not damaged. Never switch on the receiver with a damaged power cable.

### Cleaning



Switch off and disconnect the power cable before cleaning the equipment. Only use a dry cloth.

### Children Playing

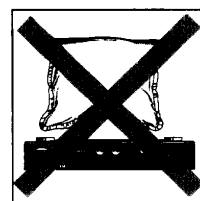
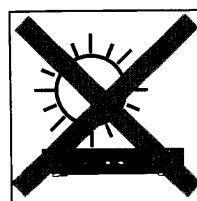
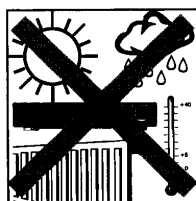
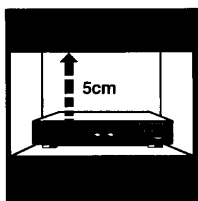


Ensure that children do not push any article into the receiver through the ventilation grills. **Danger - high voltages inside.**

### Repair

Improper operating of the receiver can result in the reduction of the electrical safety standards.

If the user opens the receiver, the manufacturer accepts no responsibility for any accident incurred whatsoever!



## Important locating and setting-up instructions

### Location

Every electronic device produces heat. This heat is not dangerous. It cannot be ruled out however, that over a long period of time, sensitive furniture surfaces and veneers will be lightly discoloured due to the radiated heat.

The rubber-feet of the receiver can also cause colour changes to sensitive surfaces. Placing the receiver on an underlay will eliminate this problem.

### Ventilation

The heat generated by the receiver will be adequately dissipated. Never install the receiver in a cupboard, on shelving or in a rack with inadequate ventilation. The receivers ventilation slots are necessary, never block them off.

Do not place anything on top of the receiver. Ensure that there is at least 5cm. of free space all around the receiver in order to dissipate the generated heat correctly.

### Mains supply

The receiver requires a DC voltage of 12 – 24V, and the power unit must be connected to a 230V / 50 Hz. AC supply.

The equipment should only be connected to the mains supply at the end of the installation.

### Humidity

Protect the receiver against moistness, dripping and sprayed water.

### Sunlight / Heating

Do not place the receiver close to a heating device, or directly in the sunlight

### LNB Voltage-supply

If an external supply voltage is used as the supply voltage for the feeder-system (LNB) and polarity inversion can not be achieved (e.g. Kathrein single cable supply system UAS 330), then the receivers LNB voltage-supply must be switched to "Off" (see section "Basic setting-up LNB voltage-supply").

The receiver may be damaged if it is not switched to "OFF".

## Connecting and Setting-up the Receiver

You will find a connection example at the rear of this book in the section "Connection Example".

### Warning!

The equipment should only be connected to the mains after all the relevant installation regulations have been complied with.

Please see the section "Safety and Location Information".

## Receiver Location

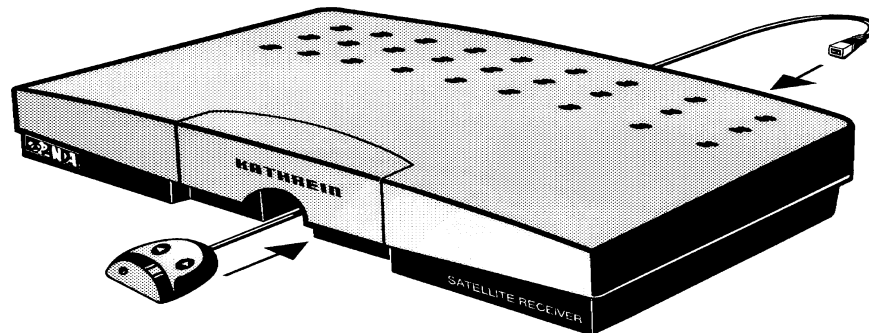
Although the satellite receiver UFD 346 is designed for mobile homes (campers) and caravans, it may also be used from a stationary position in the house.

## Locating the Receiver

The receiver's modern compact design with its reduced dimensions enables you to position the receiver within sight, i.e. on top of the TV. In this case, push the infra-red sensor into the well at the front of the receiver and guide the cable through the cable-canal in the bottom to the rear-panel. (see picture below). Connect the Western plug to the Western socket (2).

Due to its compactness, the receiver may also be placed behind the TV out of sight. The receiver may also be fixed to the wall. To help you drill the holes in the correct position there is a drilling template at the rear of this instruction book. In this case the infra-red sensor must be placed apart from the receiver.

## Infra-red Sensor



The movable infra-red sensor receives the remote control signal and feeds it through the cable into the receiver. Naturally the movable sensor may be placed apart from the receiver. In order to save space, the receiver may be positioned anywhere within sight and range of the remote controller.

The sensor is connected to the receiver by means of an 8 pin Western plug. Connect this plug to the Western socket (2) on the rear panel.

For perfect operation ensure that the infra-red sensor is in an unobstructed position by the TV.

# Connecting and Setting-up the Receiver

## Connecting the Equipment

### Voltage-Supplies

When used as a mobile receiver, plug the supplied adapter cable (adapter cable with universal plug for car cigarette lighters or car socket and low voltage plug-socket.) directly into the onboard power unit (12 - 24 V).  
Connect the low voltage adapter cable to the power-supply socket (6).

### Warning!

If the power-supply cable has been modified or another is to be used, ensure that the polarity is correct. The receiver will be damaged if the polarity is wrong.  
For stationary applications use the supplied 230V AC / 16V DC power unit.

### Satellite signal connection

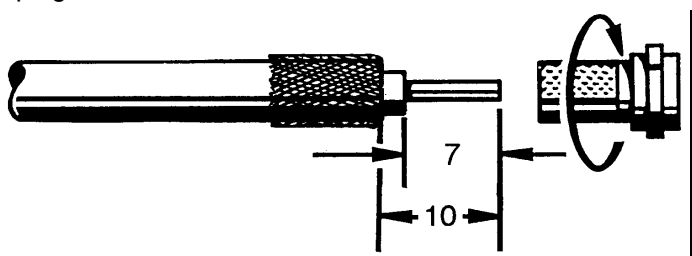
- Connect the receivers Sat ZF-input to the Satellite reception system.
- For the connection use a co-axial cable with a standard "F" plug.

If the "F" plug is not already fitted,

- Prepare the cable as shown in the following diagram and
- Rotate the "F" plug on the cable end until it fits tightly.

### Warning!

This should only be hand tight, do not use tools to connect the "F" plug to the cable or when fitting the plug to the socket.



### Warning!

Ensure that there are no fine wires from the braiding shorting to the centre conductor.

### Pre-installation reception system

The control signal for conventional reception systems has already been pre-set by the manufacturer, also the 14/18V polarity switching and the 22 KHz-switching signal for changing satellites when using multi-feed reception systems.

If a DiSEqC switching-matrix has been installed in the receiving system, the setting "ON" i.e. "Tone Burst" must be selected from the sub-menu "DiSEqC" during the basic "DiSEqC" setting-up.

See also the section "Basic Setting-up", DiSEqC menu.

Also read the Matrix technical instructions, and contact your qualified technician regarding the satellite reception system as well.

### TV and Video-recorder (VCR) Connection

- Connect the satellite receiver (TV scart-socket) to the TV with a scart-cable.

If you have a stereo TV, the scart connection will supply stereo quality tone.

- The video-recorder should also be connected to the satellite receiver (VCR scart-socket) with a scart-cable.



# Connecting and Setting-up the Receiver

## Decoder Connection

You may also connect a Pay-TV decoder to the receiver by using a scart-cable.

When decoding, the video signal is used and the switching signal is present, i.e. Premiere-decoder and video-encryption decoding, no other connection may be made at the same time.

### Important

If no switching voltage has been supplied during decoding, the receiver must be programmed as described earlier. (See chapter "Setting-up TV programs", section "Video Menu")

- **See the description in the decoder section as well!**
- Use a scart-cable to connect the decoder to the decoder socket.

## Installing batteries in the Remote Control.

- Remove the rear cover of the remote control.
- Insert the batteries into the remote control.  
Ensure that the battery polarity is correct!
- Replace the cover.


### Important

Used batteries are hazardous waste! Do not throw your used batteries into your dustbin, please take them your recycling centre or battery collecting bank.

# Operating the Receiver

In this chapter you will learn how to select TV and radio programs, set the required volume and other options.

## Switching on the equipment


- The equipment remains at "Stand-by" as long as the voltage-supply is present.
- Use this remote control  button to switch from "Stand-by" over to normal operation, which is indicated by a red LED (light diode) in the infra-red sensor.
- The previously used channel will automatically be selected. (Last-status-memory).

## Switching between TV and Radio modes

You can receive either TV, analog or ADR radio programs with your receiver.

After switching on, the receiver will be in the same mode that was previously selected (TV or radio) before it was switched off.



In TV mode the channel number display begins with a "P" in the **On Screen Display** (OSD) window. The screen is darkened when the radio modes are being used, and the display begins in analog radio mode with "R" and with "A" in ADR radio mode.

- When using the remote controller you can switch between TV, analog and ARD digital radio modes by pressing this  button.

Operating sequence:

TV → analog radio → ADR radio → TV etc.

## Channel Selection



- The required program may be directly selected by using these number   buttons.

Example of how to enter a three-digit number ("Select your program"):

To select program 147

- Enter 1, and program 1 is selected
- Enter 4, and program 14 is selected
- Enter 7, and program 147 is selected

or

- You may select the listed programs in consecutive order by using these   buttons.

After switching to another program, the channel number and name will be displayed on the screen for approx. 3 seconds.

### Important

When entering a 2 or 3 digit channel number the selected program will be switched in after approx. 3 seconds. During this time other numbers may be entered.

When setting-up "Select your program" the receiver will switch over automatically to every channel number entered. (See the above example.)

When using the "Basic Setting-up" menu a permanent window showing the selected channel numbers may be set up (see section, "Basic Setting-up, On Screen Window") for both TV and analog radio programs.

# Operating the Receiver

## Analog Radio Programs

Analog radio programs are received using the well known "Wegener Panda 1" Standard. (DNR)

Unlike digital ADR radio programs, information is not transmitted together with the analog radio programs.

The program name must be entered in the setting-up menu for analog radio programs.

## Digital Radio Reception (ADR)

ADR radio programs are digital transmissions, ensuring CD quality sound reproduction.

Normally free ADR radio programs include the transmitter name and category identification, sometimes further additional information (TTA data) is also transmitted. This is shown both on the screen and in the LCD-display. (The information lasts approx. 3 seconds.)

Any-program	A9
POP	
Title:	—
Artist:	—
Album:	—
Author:	—
CD-No.:	—

### Important

This window is only displayed when the information is transmitted by the program supplier.

## Displaying the Previous Title in ADR Radio Mode

- The option exists in ADR mode, to display the previous music title again by pressing these **STORE** + **1** consecutively.
- Use this **POWER** button or these **STORE** + **1** buttons to close the display again.

### Important

Displaying the last title is only possible, when this data is transmitted by the program supplier.

## Clearing the Radio Text

If you have selected a program where TTA data (Title, Artist, etc.) and radio text are transmitted together, use this **STORE** + **5** button combination to clear the radio text. The TTA data that was hidden by the radio text is now visible. Press **STORE** + **5** to display the radio text again.

### Important!

This option is only available when TTA data and radio text are displayed together in the OSD window.

## Category Selection in ADR Radio Mode



Digital radio programs are listed in different categories by the program suppliers. In "Category" mode you have the option to select individual categories.

Press this **I** button twice.

# Operating the Receiver

This menu is displayed

```
ADR – Category Selection
Button '1' : CLASSIC
Button '2' : POP
Button '3' : OLDIES
Button '4' : ROCK
Button '5' : JAZZ
Button '6' : COUNTRY
Button '7' : SPECIALITY
Button '8' : REGIONAL
Button '9' : NEWS/EVENTS
Button '0' : GENERAL
```

- Use the number   buttons to select the desired category. The receiver will switch to the next channel in this category.

The following is displayed on the screen:

```
Category mode
selected
```

Channel selection is now made with these   buttons, and no longer with the number buttons.

Not all of the program suppliers categories will be shown in the OSD window. If the selected category is not available, the following is displayed:

```
Selection
does not exist!
```

This selection is not possible.



- Press this button  **three** times to exit the category mode.

The following is displayed on the screen:



```
Category mode de-selected
```

Channel selection continues in the same way as before.

## Volume, Balance and Tone Settings

- Press one of these   buttons and the menu for setting the volume, balance, tone controls (highs and lows), stereo-width and pseudo-stereo is displayed..

```
>Volume: 21
|||||.....
Balance: 00
.....||.....
Highs: 00
.....||.....
Lows: 00
.....||.....
Stereo-width: 00
.....||.....
Pseudo-stereo: OFF
```

Use these   buttons or the  button to select the required menu option and use this   to make changes.

These settings have no control over the VCR scart socket, ensuring that the recording is not disturbed.



### Important

The option "Stereo-width" enables you to set the width of your choice. "Pseudo-stereo" simulates stereo, and is only valid for and therefore only selectable with mono reception. "Pseudo-stereo" mode can be simulated, by switching a stereo program over to mono.

The OSD window will be cleared after 3 seconds.

# Operating the Receiver

## Tone muting switch


- Press this  button.  
The tone will be muted, allowing you to telephone undisturbed.
- Press this  button again, to restore the volume.

### Important

The muting switch has no control over the VCR scart-socket.

## Stereo / Mono Channel Switching

Transmissions may be recorded using the two channel system. (e.g. Original English tone on channel 1, German tone on channel 2).

- Press this  button to step through the tone options:  
Stereo → Channel 1 → Channel 2 → Stereo
- The selected channel will be shown on the screen.

The selection will not be saved. After switching programs the original setting will be restored.

## Video Recorder - Replay (VCR)

To use "VCR-Replay", the receiver must be switched on, then the signal path will be automatically switched through from the VCR scart-socket to the TV scart-socket.

## SAT/TV Switching

When a satellite-receiver and a TV are connected with a single scart-cable, many TVs will switch the signal input over to video mode (at the scart-socket) immediately the satellite receiver is switched on. The switching voltage must be turned off at the scart-socket if you want to watch a terrestrial TV transmission.



- Press this  button.

The switching voltage on pin 8 of the scart-socket will be switched off, and may be switched back on by pressing the same button again.

In SAT mode, "SAT mode" will be displayed on the screen for approx. 3 seconds.

## Operating the Receiver without a Remote Control

When the satellite-receiver is switched on it will automatically return to the mode it was in before it was switched off.

If the receiver was in "**Stand-by**" mode when it was switched off at the mains, it will automatically return to the "**Stand-by**" mode when switched on again. If you have miss-placed the remote control, you can switch the receiver back into the receiving mode by pressing both buttons   on the front side simultaneously.

By pressing both switches again you can switch between "**TV, analog and ADR radio**" modes.

# Operating the Receiver

## Channel numbers: changing, sorting and copying

With the option "Channel Sorting" you can change, sort and copy the TV and radio channels into any order you like.

### Example:

You wish to move the program that is saved under channel "P083" to channel "P003".

- Use **0** **8** or **CH** buttons to select channel P083.
- Press these **STORE** + **i** buttons consecutively.

The menu option "Change Channel" is now displayed.

- Press this **i** once again.

The menu option "Enter" is now displayed:



- Use **0** **3** or **CH** buttons to select channel P003.
- Press this **STORE** button **twice**.

The program at channel 83 will now be moved to channel 3.

The following message will be displayed on the screen:

Please wait

When the move has been completed, this message appears on the screen:

Program entered!

Use the same procedure to move other programs.

- To switch to the "Copy" mode press this **i** button **once more**.
- Exit the menus with this **power** button.

Use the same procedures to change, copy or sort either analog or ADR radio programs.

## Displaying the Help Menu and Program Listings

### Help Menu

The equipment must be at normal operation. (TV, radio or ADR radio).

- Press this **i** button.

The Help menu is displayed with tips for re-calling the basic setting-up, video, audio menus and program lists in the TV mode and the basic setting-up and radio setting-up menus in radio mode.

# Operating the Receiver







## Program Listings

(Only in TV and analog radio modes)

- Press this  button once again:


The program listings are now displayed on the screen.

The selected program is marked with these <..> characters.

- With these  buttons you may step through the program listings or use these  buttons to step through in blocks of ten.
- Press this  button once, to switch over to the selected program. Use this  button when you wish to exit the program listings and you will be switched automatically back to the previous program.
- Press this  twice, to return to the selected program and exit the program listings.
- Exit the menu without changing the program with this  button.

## Tuning a Weak Reception Signal

When the received signal is weak, e.g. spikes (herring-bone patterns) are displayed at the picture edges, use the option "Picture Tuning" to improve the picture.

- Press this  button and the following window is displayed on the screen:



Use these  buttons to improve the picture.

**Important** The radiated power from the individual transponders (satellite programs) varies, as does the transponder illumination area. Picture tuning is possible for every program but the new settings are not saved. i.e. if you change channels you must re-tune.

# Selecting TV Programs

The satellite receiver has already been pre-programmed by the manufacturer as a satellite reception system with a feeder system working with a 9.75 GHz oscillator frequency. All selected programs are shown in the accompanying table.






If you are going to use your satellite reception system with a feeder system that uses a different frequency, you must set the receiver to the oscillator frequency during the installation.

This is explained in the section "Basic Setting-up, Oscillator Frequency".


## Setting-up TV Programs

When selecting new TV programs, the corresponding video and audio receiving parameters must be set-up.

The up-to-date program allocation details can be obtained from satellite program magazines or from SAT 1 videotext, starting at page 516.

- First select the channel number where you wish to save the new program.
- Call up the video-menu, by pressing these **STORE** + **TVSAT VIDEO** buttons consecutively.  
or
- Call up the audio-menu, by pressing these **STORE** + **MUTE AUDIO** buttons consecutively.
- Switch between video and audio menus by pressing either of these **MUTE AUDIO** **TVSAT VIDEO** buttons.
- Select the required menu line by pressing these   buttons.
- The numbers may be entered directly by pressing these **0** **9** buttons.  
or
- You may step through the values by using these  **CH**  buttons.
- Press this button **STORE** **twice**, to save your settings.
- Exit the menu by pressing this  button.

### Important

You may leave any setting-up mode at any time (without saving) and return to the normal mode by pressing this  button

## The "Video" Menu

The following settings may be made within the video menu:

Channel:	P002
Program name:	ZDF
Sat-frequency:	10964 MHz
Polarity:	Hor. Low
Orbital position:	1
Hub:	16 MHz
Oscillator:	LO 1
Decoder menu...	
▼▲ 0-9 VOL VID AUD A/B STBY STOR	

The status line at the bottom of the menu displays the buttons that you must use to change the settings.



# Selecting TV Programs

## Satellite frequencies

The 5 digit frequencies in the range **10700** to **12747 MHz**. may be entered by using the number buttons **0** **9**. With these **CH** buttons you may tune the receiving frequency correctly using 1 MHz. steps (recommended when the picture signal is weak and fading.)

## Polarity/Orbital Position

In both of the following menus you may select the required LNB feed-voltage and the 22 kHz switching-signal (which is over-ridden by the LNB feed-voltage).

### Polarity

The "Polarity" menu allows you to select the correct voltage level (14/18V), the polarity and the 22 kHz. switching signal for the frequency range. (see table).

Frequency range	Polarity	LNB voltage	22 kHz switching signal	Settings
10.7-11.7 GHz	vertical	14 V	Off	Vert. Low
	horizontal	18 V	Off	Hor. Low

### Orbital Position

The "Orbital Position" menu allows you to select the 22 kHz switching-signal thus enabling you to change between two (or more) satellites for multi-feed reception systems (see following table).

Satellite	Orbital position	22 kHz switching signal
Astra 19,2° East	1	Off
Eutelsat 13° East	2	On
Eutelsat 10° East	3	Off
Eutelsat 16° East	4	On

In the "Basic Setting-Up" menu (sub-menu "DiSEqC") there is an explanation of which menu-option requires the 22 kHz switching-signal. (Polarity or Orbital position).

### Important

The Astra-satellites only use digital signals in the upper frequency ranges (High - band). Correspondingly a special receiver (DVB-Receiver; d-Box) is required. Conventional (analog) signals are used in the lower frequency ranges (Low-band). This is standard with the Eutelsat-programs.

- Select the required polarity, this is always either Vert. Low or Hor. Low.

Due to tests made during the manufactures pre-installation will you find (upon delivery) in the Basic Setting-Up menu "DiSEqC" menu-column "22 kHz Signal" the entry "Pos. A/B" selected.

The selections Vert. High and Hor. High are not to be used.

### Video-hub

The satellites transmit their signals using different video-hubs, 16 or 25 MHz. Which one to select is dependant on the screen brightness.

- Select the video-hub that gives the best screen brightness.

### Oscillator

The receiver has 4 LO frequency groups available (LO 1 - LO 4), whose selection ensures a problem free change over to different feeder-systems with other oscillator frequencies (i.e. Telecom 1A).

When delivered from the manufacturer all 4 oscillator frequencies are set to 9.75 GHz (9750 MHz)

# Selecting TV Programs

The LO-Frequency groups are also used for satellite identification when our Auto-Positioner HDP 160 is running a fully automatic set-up.

The individual satellites have been assigned the following LO groups:

Satellite	LO-group
Astra	LO 1
Eutelsat 13°	LO 2
Eutelsat 10°	LO 3
Eutelsat 16°	LO 4

See the Basic Setting-up menu for changing the LO frequencies.

## Decoder menu

You may connect a Pay-TV program decoder to the decoder scart-socket.


The receiver recognises Pay-TV programs, by the switching signal generated by the decoder (i.e. Premiere) and switches this signal through to the TV and VCR scart-socket.

For decoders that do not generate switching voltages, the following settings are available.

- Call-up the video setting-up menu,
- Select "Decoder menu" from the option list,
- Activate "Decoder menu",
- Set video-signal path to external,
- Set the audio-signal path to external only if the audio signal is also encrypted.




### Important


If you are connecting to a decoder that requires a basic band signal with PAL or MAC de-emphasis, then the aforementioned de-emphasis (PAL or MAC) may be selected from the menu option "Signal Type" (see "Decoder" section).

- Save your settings by pressing this  twice.



## Program Name

You may enter a 5 character program name of your choice in the line "Program Name".

- Press this  button to select "Program Name" from the menu options.
- Use these  buttons to select the 1<sup>st</sup> character.
- Use this  button to change to the next character.
- Using the above method to select the remaining characters.

- Use this  button to change to the "Audio menu"

or

- Save your settings by pressing this  button twice.
- Press this  button to return to the receive mode.

# Selecting TV Programs

## The "Audio" Menu

The following settings may be made from within the audio menu:



### Audio modes

Select one of the following modes: "Stereo", "Mono-narrow" or "Mono-wide". The modes "Stereo" and "Mono-narrow" are set when the sub-carrier is received and "Mono-wide" is set when the main carrier is received.

### Audio frequency

The 3 digit audio frequency in the range **5.00 to 8.80 MHz**. may be entered by using the number buttons . In stereo-mode, the frequency for the left channel is entered and the frequency for the right channel is automatically set at 180 KHz. above the left channel.

Use these buttons to select pre-installed audio frequencies. The audio frequencies are listed in the following tables:

Mode	Sound carrier frequencies	Mode	Sound carrier frequencies
Stereo	7.02 / 7.20 MHz	Mono (narrow) MNR	7.02 MHz
	7.38 / 7.56 MHz		7.20 MHz
	7.74 / 7.92 MHz		7.38 MHz
	8.10 / 8.28 MHz		7.56 MHz
Mono (wide)	5.80 MHz		7.74 MHz
	6.50 MHz		7.92 MHz
MWD	6.60 MHz		8.10 MHz
	6.65 MHz		8.28 MHz
	6.80 MHz		

### Audio De-emphasis ("mono-wide" mode only)

For the best de-emphasis sound quality select 50 µs or J17 on. "Stereo" and "Mono-narrow" modes automatically select de-emphasis DNR and 75 µs.

Stereo, Mono-narrow: DNR, 75 µs  
Mono-wide: 50 µs or J17

- Save your settings by pressing this button **twice**.

If you wish to set-up further program channels:

- Press this button to change to "Video-menu".
- Go to the first menu line "Channel number" and select the next program channel.
- Select further program channels by using the above method.
- Exit the set-up menu by pressing this button.

# Selecting Radio Programs












The program suppliers transmit new permanent radio programs over the satellites. You may save these programs using the "Radio" menu.

Select the new programs through:

- Manual selection of analog radio programs.
- Manual or automatic search selection of digital radio programs (ADR).

To select radio programs in "Radio" mode use the same selection methods as in "TV" mode.

## Selecting Radio Programs

- Use this  button to switch from "TV" over to "Radio" mode.
- First select the program channel where you want to save the new program.
- Call up the radio-menu, by pressing these  +  buttons consecutively.
- Use these   buttons to select the required menu option.
- The numbers may be entered directly by pressing these   buttons *or*
- You may step through the values by using these   buttons.
- Press this button  **twice**, to save your settings.
- Exit the menu by pressing this  button.

## The Analog Radio Menu


The following parameters may be set from within the analog radio menu:

Radio program:	R 02
Program name:	DE W1
Sat-frequency:	11214 MHz
Polarity:	Hor. Low
Orbital position:	1
Hub:	16 MHz
Oscillator:	LO 1
Mode:	STEREO
Frequency:	7.38/7.56 MHz
De-emphasis:	DNR/75µs
▼▲ 0-9 VOL A/B STOR STBY	

The status line at the bottom of the menu shows the buttons that you must use to change the settings.

Radio programs are only transmitted with the sound sub-carrier. Therefore the setting choice is between "Stereo" or "Mono-narrow" only. Audio de-emphasis mode automatically selects "DNR" and 75 µs.

### Important

You may leave any setting-up mode at any time (without saving) and return to the normal mode by pressing this  button.

## The "ADR" Radio Menu

The "ADR Radio" menu settings are nearly the same as for the analog menu.

The menu options "Program name" and "De-emphasis" are not required. The program names are transmitted together with the digital radio programs.

The additional menu option is "Clear Program".

The remaining settings are identical to the analog radio programs.

# Basic Setting-up

The "Basic Setting-up" menu enables you to connect the receiver to the satellite reception system.

## Important



The receiver has already been pre-programmed by the manufacturer as a standard satellite receiving system.

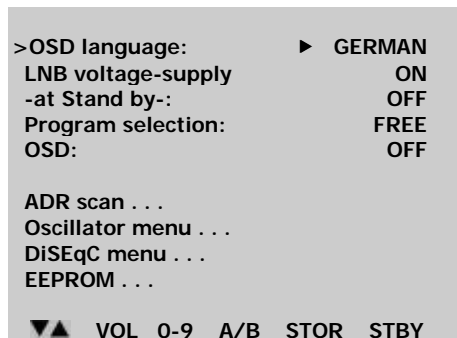
Changes to the basic setting-up are only required if your receiving equipment is non-standard or you wish to use a non-standard reception system.

These menu settings are normally made by the qualified technician during the basic installation of the satellite reception system.

To prevent unintentional changes to the basic setting-up, the basic setting menu can only be called up when the receiver is first switched on, (remove the power input).







## Calling-up the Basic Setting-up Menu

- Remove the power plug from the socket in the (Innenhohlleiterstecker) (6) bay.
- Press and hold down both program selection  buttons (4) simultaneously on the infra-red sensor.
- Re-insert the plug back into the socket.
- Release both  buttons when the LCD-display shows the following:



The status line at the bottom of the menu shows the buttons that you must use to change the settings.

The settings in the basic setting-up menu are made in exactly the same way as in the previous TV and radio menus:

- Use these  buttons to select the menu option.
- Make selection and call-up sub-menus with these  buttons (and the number buttons   for entering the frequencies).
- Press this  button **twice**, to save your settings.
- Exit with this  button.

## OSD Window Language

You may select your language using the **On-Screen-Display** window. The choice is between German, English or French.

Default setting: **German**

# Basic Setting-up

## LNB Voltage-supply

The voltage-supply for the feeder-system can be switched out, when it is supplied by an external source and the signal selection is not controlled by the LNB voltage-supply system. (i.e. Kathrein single cable feeder system UAS 330).

When the receiver is connected to a satellite reception system with a switching matrix, then the polarity inversion voltage must be switched on.

Default setting: **"ON"**

## LNB Voltage-supply at Stand-by

When the receiver is at stand-by, it is normal for the LNB voltage-supply to be switched off.

If the receiving-system is switched to terrestrial and satellite signals at the same time and the voltage-supply is being supplied by the receiver, the voltage-supply must be available when the receiver is at stand-by.

In this case, the voltage-supply must be switched to **"ON"** during stand-by.

Default setting: **"OFF"**.

## Program Selection

You have the option to enter either single, double or triple-digit channel numbers or free. (default setting: three-digit).

Setting	Selectable Channel-number
Single-digit entry	Channel-number 1 - 9
Two-digit entry	Channel-number 1 - 99
Three-digit entry	Channel-number 1 - 200
Free entry	Channel-number 1 - 200

## On Screen Display Window (OSD)

You may select if the channel-number and program name are to be permanently displayed or cleared after 3 seconds.

These settings differ between the TV and radio modes.

Default settings: TV mode **"Off"**.

Analog radio mode **"On"**.

To call up the radio basic setting-up menu, first change over to radio mode and then switch the receiver off using the ON/OFF switch, wait a few seconds and then switch the receiver back on, and call up the basic setting-up menu.

## ADR Scan

"Scan" may be switched "On" or "Off" with this menu option.

If "Scan" is **On**, then, when this  button is used to switch the receiver off, "Scan" is automatically started.

When the scan is completed, the receiver is switched to "Stand by".

During the scan the LCD-display will show the number of newly found programs and at the end of the scan will switch to the saved program list.

Use the option "Enter channel number" to add new programs in the required order.

## Basic Setting-up

ADR radio programs are transmitted over the Astra satellites only in the lower frequency band. The following settings are required for the Astra satellites:

- Frequency band Low
- Orbital position 1
- Oscillator 1

Manufacturers default setting is "Scan" selected and switched "On".

### Oscillator Frequency

The satellites transmit their programs in a frequency band that the satellite receiver cannot work with. In the reception-system (**LNB** - **L**ow **N**oise **B**lock-converter or **LNC** - **L**ow **N**oise **C**onverter) these high frequencies are converted to lower frequencies for the satellite receiver to work with.

The satellite transmitting frequencies lay in the following bands:

10700 - 11700 MHz Low-band

11700 - 12750 MHz High-band

The receiver's input frequency band covers the 950 - 2150 MHz range.

The conversion of the higher frequencies into lower frequencies is achieved with the help of the oscillator frequency (LO-Frequency). Different oscillator frequencies are used for the various satellite frequency bands and system types.

For Astra and Eutelsat-reception systems using the lower frequency bands (Low-Band) it is normally 9.75 GHz (9750 MHz) and for the upper frequency bands (High-Band) 10.6 GHz (10600 MHz). Older reception systems working in the lower frequency bands also work with a 10 GHz oscillator frequency.






The receiver calculates the required working frequency by subtracting the oscillator frequency from the satellite transmitting frequency saved with each program.




This is why it is so easy to connect the UFD 346 to other reception systems, without having to re-program every individual channel.

You only need to set the respective oscillator frequencies that your reception-system uses.

When delivered from the manufacturer all of the LO-groups (LO 1 to LO 4) have the oscillator frequency set to 9.75 GHz (9750 MHz).

### Changing the Oscillator frequency

- Call-up the basic setting-up menu (see section "Calling-up the Basic Setting-up Menus").
- Use these   buttons to change to the menu option "Oscillator-menu . . .".
- Use these    buttons to call-up the sub-menu "Oscillator-setting-up".
- Select the line containing the oscillator frequency (LO 1 - LO 4) to be changed.
- Use the number buttons to enter the new 5-digit LO-frequency (e.g. 09750).

Use these    buttons to select the pre-programmed LO-frequencies as listed in the table below:

09610	09665	09750	09950	10000	10230	10259	10500
10600	10700	10750	11000	11125	11300	11450	

- Further oscillator frequencies may be entered by using the same methods.

Press this  button **twice**, to save your settings.

# Basic Setting-up

## DiSEqC-Signal (Digital Satellite Equipment Control)

Different control signals are required when selecting satellite signals. Up until now the 14/18V LNB supply-voltage and the 22 kHz. signal (which is overridden by the LNB feed-voltage) was sufficient for the majority of application-traps to select the signals.

With these 4 control-criteria you can switch between the horizontally and vertically polarised signals as well as between 2 satellites (multi-feed reception).

With the expansion of the frequency ranges into the 12 GHz band (high-band range 11.70 - 12.75 GHz) or for the reception of more than two satellites additional control-criteria are required for the LNB-drive and signal selection.

Eutelsat together with Philips have developed the "DiSEqC"-control-signal.



The "DiSEqC" control-signal applies a special modulation (pulse-widening modulation) to the existing 22 kHz. signals.

You must distinguish between:

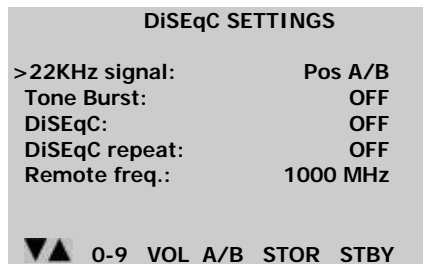
- DiSEqC Tone Burst  
(described as Simple DiSEqC or Easy DiSEqC)
- DiSEqC 1.0
- DiSEqC 2.0

The UFD 346 receiver uses both Tone Burst Signal and DiSEqC 1.0. Which one is required depends upon the components in your reception-system.

### DiSEqC Menu Settings

- Call-up the basic setting-up menu (see section, "Calling-up the Basic Setting-up menus").
- Use these  buttons to select the menu option "DiSEqC menu . . .".
- Use these  buttons to select the sub-menu "DiSEqC menu . . .".

The following menu is then displayed ( default settings):



The status line at the bottom of the menu shows the buttons that you must use to change the settings.

## 22 KHz Signal

This menu-option determines whether the 22 KHz signal can be switched between a satellites upper and lower frequency bands (High/Low) or between 2 satellites (Pos. A/B).

22 KHz	Freq. Range	22 KHz
High/Low	Low	Off
	High	On

or

22 KHz	Orbital Pos.	22 KHz
Pos. A/B	1 and 3	Off
	2 and 4	On

(Default settings)

See Video settings menu, menu-option: **Polarity and Orbital Position**



# Basic Setting-up

## Tone Burst and DiSEqC Signal

If a reception-system uses more than 4 control-criteria, then a DiSEqC control-signal is required.

Which setting-up option, "Tone Burst" or "DiSEqC" is required depends upon the components in your reception system.

Read the description of the fitted reception-system components (switching-matrix).

### Tone Burst

The menu-option "Tone Burst" allows the following settings for the 22 KHz signal:

Default switching status :		
22 KHz signal	→	<b>High/Low</b> and
Tone Burst	→	<b>Pos. A/B:</b>
Low	22 KHz	<b>Off</b>
High		<b>On</b>
Pos. 1	Tone Burst	<b>0</b>
Pos. 2	Tone Burst	<b>1</b>

Default switching status:		
22 KHz signal	→	<b>Pos. A/B</b> and
Tone Burst	→	<b>Opt. A/B</b>
Pos.	Tone Burst	22 KHz
1	<b>0</b>	<b>Off</b>
2	<b>0</b>	<b>On</b>
3	<b>1</b>	<b>Off</b>
4	<b>1</b>	<b>On</b>

### DiSEqC

With the DiSEqC-Signal, the switching options are again enhanced

To ensure a perfect setting-up, you must know the reception-system switching-criteria.

Read the description of the DiSEqC-matrixes and contact your qualified reception-system technician.

### DiSEqC Repeat



The DiSEqC command must be repeated if the satellite reception-system contains cascaded "DiSEqC components" (DiSEqC matrixes consecutively switched).

- Switch the menu option "DiSEqC repeat" to "On".

### Remote

The setting "Remote" in menu-option "DiSEqC" is for planned future modifications. If the receiver UFD 346 is connected to a reception-system with a "subscriber controlled signal processing system e.g. "Kathrein UFO mini digital", then *Remote* must be selected from the DiSEqC menu.

In this case the corresponding upper carrier frequency in the range 920 - 2150 MHz must be selected from the menu option "Remote Frequency". With this frequency the satellites signals are transferred from the reception-system to the receiver.

- Press this  button **twice**, to save your settings.
- Press this  button **twice**, to exit the basic setting-up menu.

### Important

The settings will be lost if you exit the menu without saving!

# Basic Setting-up




## "EEPROM" Menu Option

The menu option "EEPROM" is provided so that the service technician may read the program data in and out.

## Remote Control Command Set Switching


The remote control includes 2 sets of command instructions. Therefore it is possible to operate 2 independent 200 and 300 series satellite receivers in a room with only 1 remote-controller. (not applicable to a Twin-receiver).

Program the first receiver to work with command set 1, and second receiver with command set 2.

- Switch receiver 1 on and receiver 2 off (using the units ON/OFF switch).
  - Press and hold down this  button.
  - Using the number buttons enter "001".
- Switch receiver 1 off and receiver 2 on (using the units ON/OFF switch).
  - Press and hold down this  button.
  - Using the number buttons enter "002".
- Switch receiver 1 back on.
  - Press and hold down this  button.
  - Using the number buttons enter "003".

### Important

With the first pair of settings, the remote controller is set to switch to the required receiver.

With this  button you can switch between the two command sets A & B (toggle mode) and therefore alternate between and operate both receivers.

When delivered from the manufacturer, command set 1 is the default mode.

### Important

If you are using only one receiver and due to an operating error the system has switched out of the default operating set, so that you no longer have control of the receiver, the remote controller may be easily switched back over to the correct command set 1. How to achieve this is described above.

## Equipment features

The UFD 346 receiver is equipped with the following features:

- Memory storage for 200 TV programs
- Memory storage for 250 ADR programs
- Memory storage for 99 analog radio programs
- Low threshold tuner for tuning the video signal when the reception is weak
- Connection for TVs with scart sockets
- Selectable oscillator frequencies enabling you to change over easily to a feeder-system using other oscillator frequencies
- Movable infra-red sensor, enabling you to operate a concealed receiver
- Radio button
- Stereo / Double tone switching
- Audio frequency range from 5.0 MHz – 8.8 MHz
- Tone muting and volume controls
- Wegener-Panda 1 Dynamic Noise Suppression (DNR)
- Stereo reception
- On Screen Display (OSD) in 3 languages (German, English and French)
- Selectable 22 KHz. Control signal
- DiSEqC 1.0 and Tone Burst control signals
- Switchable LNB-voltage-supply
- 12 - 24 V DC for the movable sensor
- Additional mains power unit included in the package
- Data-copying option (to read program data in and out using Copy-Programmer UFP 10)
- Channel changing, sorting and copying options
- Infra-red remote control with command set switching (thus allowing you to operate 2 receivers in one room at the same time)
- 3 scart sockets for TV, VCR and Decoder connections
- Last Status Memory

# Technical Data

## HF-Characteristics:

Sat ZF-frequency range:	950 - 2150 MHz
Input level range:	48 - 78 dB $\mu$ V
ZF-frequency:	479.5 MHz.
ZF-bandwidth:	27 MHz
FM-threshold:	7 dB max.
Low threshold tuner	32 steps

## Video:

Frequency range:	20 Hz - 5 MHz
Hub:	16/25 MHz selectable
Output voltage:	1V <sub>ss</sub> /75 $\Omega$
De-emphasis:	CCIR Rec. 405/625 lines

## Audio (digital)

Standard:	ISO/IEC 11172-3 (MPEG-1/Layer II)
Audio carrier range:	0.18 – 8.82 MHz
Tuning:	Search, direct input or group selection
Bandwidth:	130 KHz
Frequency range:	40 Hz - 15 KHz
Harmonic distortion (1KHz):	<0.5%
S/N (A-curve):	>83 dB
Output voltage:	1 V <sub>eff</sub> at 10 K $\Omega$
Bit error rate (9 dB C/N):	10 <sup>-6</sup>

## Audio (analog)

Sub-carrier frequency range:	5.0 – 8.80 MHz
Bandwidth:	
Mono-wide	280 KHz
Mono-narrow/Stereo:	130 KHz
Frequency range:	40 Hz - 15 KHz
De-emphasis Mono-wide:	50 $\mu$ s, J17 (selectable)
Mono-narrow:	DNR 75 $\mu$ s Wegener Panda
Output voltage:	1 V <sub>eff</sub> at 10 K $\Omega$
Harmonic distortion (1KHz):	<1 %
S/N :	>70 dB

# Technical Data

## Voltage supply:

Operating voltage	12 – 24 V DC
Mains-supply:	230 V $\pm$ 10%, 50 Hz, 1 A.
Power consumption:	
Receiver Operating / Stby	<15 / 1 W
Receiver with power-supply:	
Operating/Stand-by:	<19 / 2 W
LNB supplies:	0, +14 V (vert.),+18 V (horz.)
LNB current:	300 mA max.
Control signal:	22 KHz square-wave 0.6 V <sub>SS</sub> DiSEqC 1.0 / Tone Burst

## Connections

Sat-ZF input:	F socket 75 $\Omega$
TV/VCR/Decoder	3 Scart/Peritel 21-pin sockets
Infra-red sensor/	
Data interface:	Western 8 pin socket
Operating Voltage	Low voltage jack socket 5.5 / 2.1 mm

## General:

Unit dimensions (W/H/D):	271 / 50 / 150 mm
Weight:	
Receiver	approx. 0.6 Kg.
Power-unit	approx. 0.76 Kg.

## Temperature range:

Surrounding temperature:	+5°C - +40°C
--------------------------	--------------

## Accessories

Power-supply 230V AC / 16V DC / 1 A.  
Infra-red sensor, infra-red remote control,  
scart cable, 12V connecting cable with 6 – 24V DC universal plug,  
2 batteries 1.5 V, type LR 03, size: AAA (Micro)





# Menu Structures

## Video and Audio Settings menus

Return (by stepping) to the normal program-mode with this  button

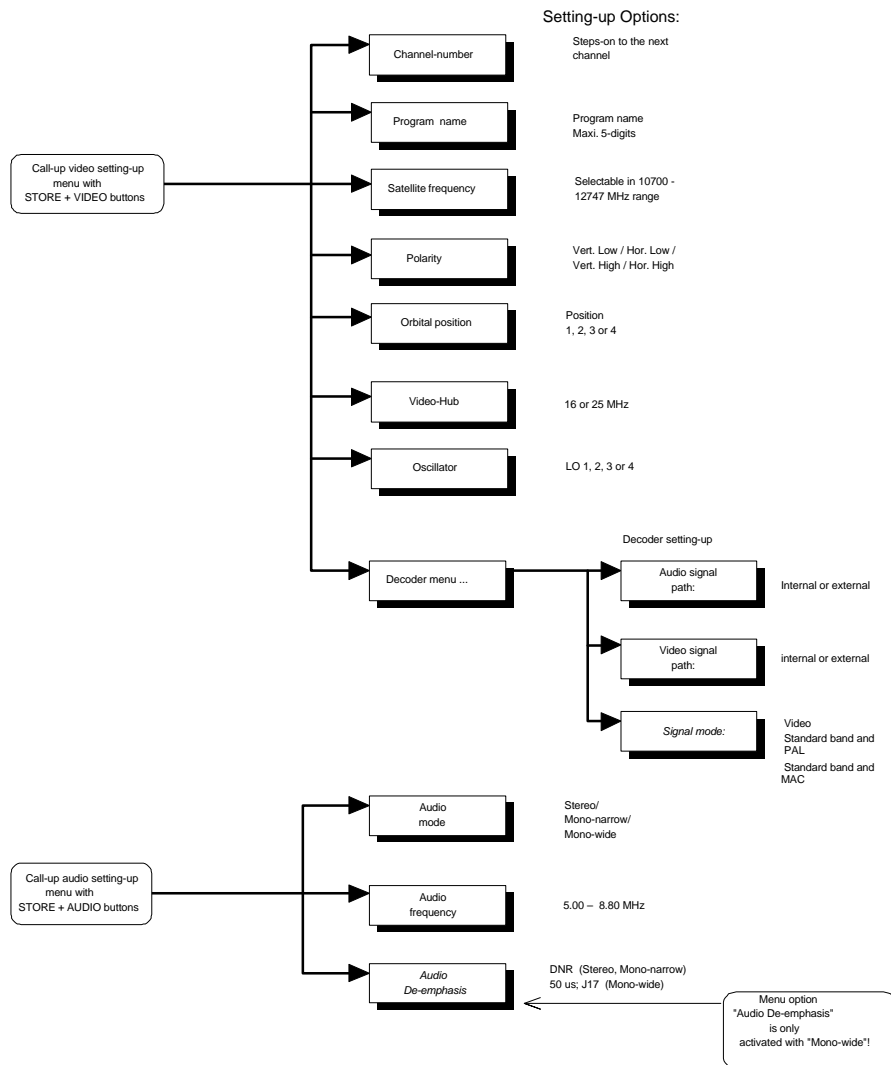
Press this button  twice to save your settings

Use these   buttons to select the menu option

Use these   buttons or the number buttons to enter the frequencies

Use this  button to switch from the video to the audio mode

Use this  button to switch from the audio to the video mode



# Menu Structures

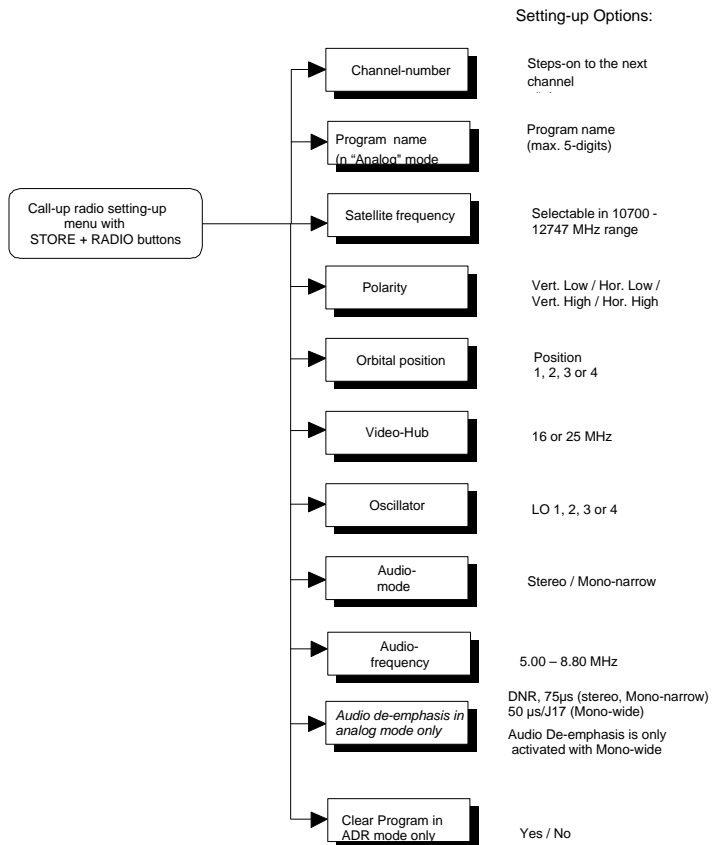
## Radio Settings Menu

Return (by stepping) to the normal program-mode with this  button

Press this button  twice to save the settings

Use these   buttons to select the menu option


Use these    buttons or the number buttons to enter the frequencies





# Menu Structures

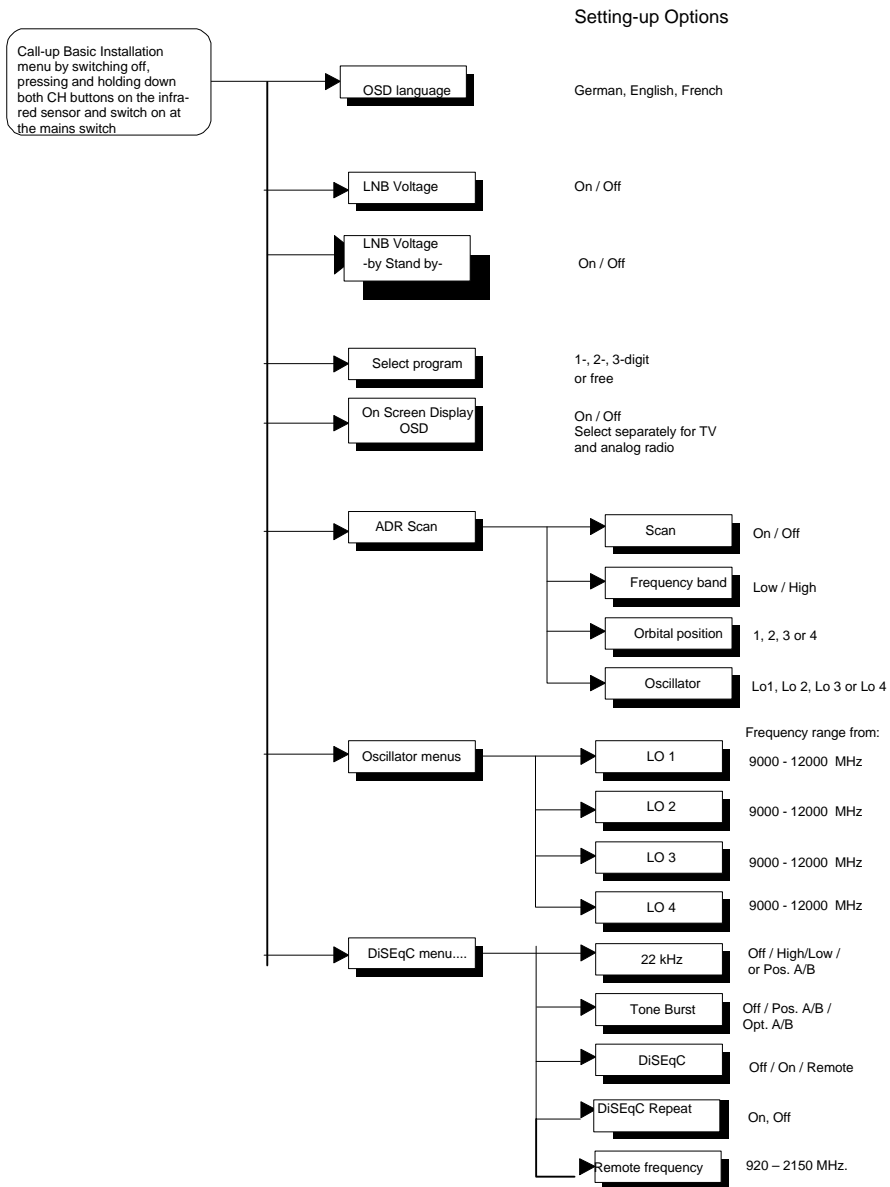
## Basic setting-up menu

Return (by stepping) to the normal program mode with this  button

Press this  twice to save your settings

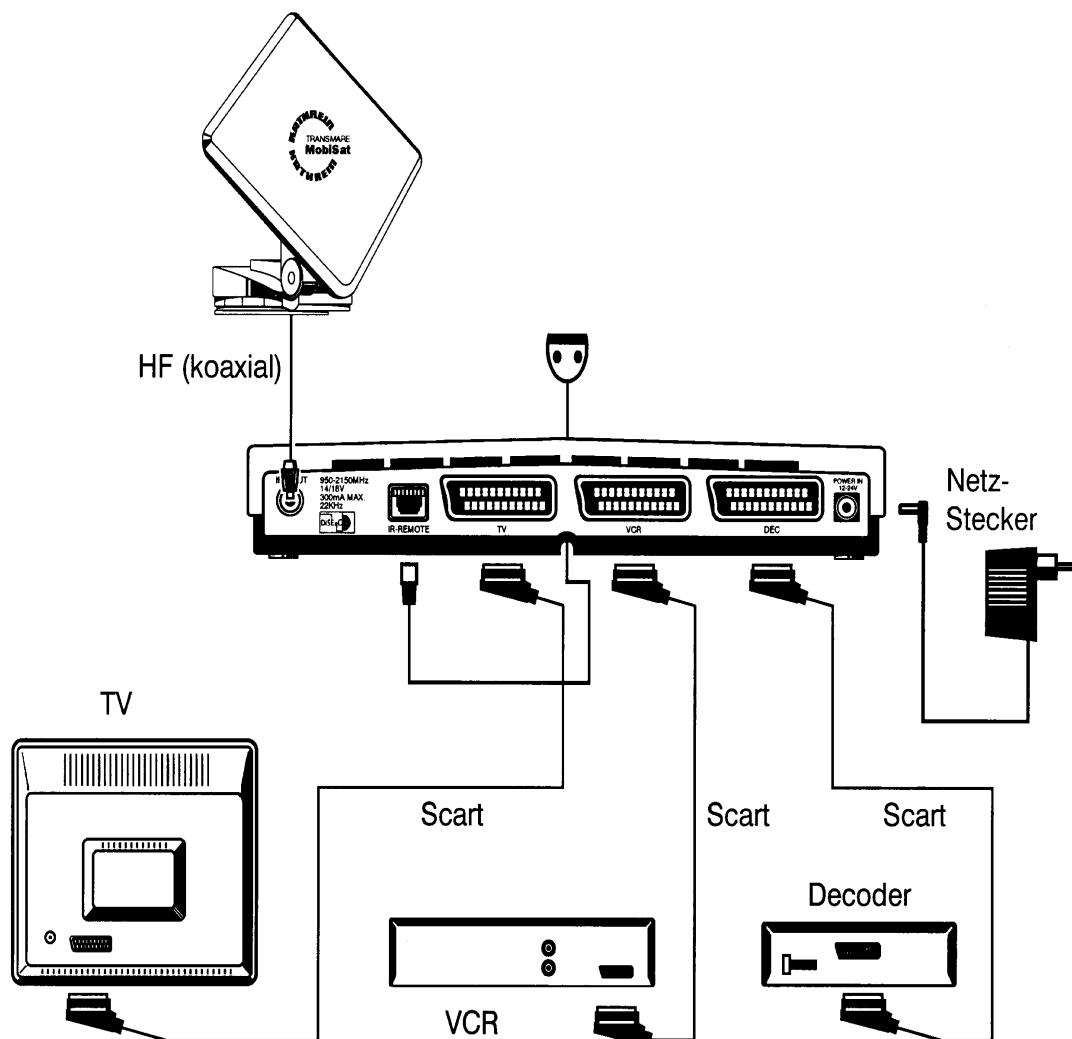
Use these   buttons to select the menu option

Use these    buttons or the number buttons to enter the frequencies





## Connection example / Service note / Service note



Important

Dear Customer

If you experience continual problems with your receiver, please contact your equipment supplier, or our Customer Service Dept. at the following address:

ESC

Electronic Service Chiemgau GmbH

Bahnhofstraße 108

D-83224 Grassau, Germany

Tel: +49-8641-9545-0

Fax: +49-8641-9545-35 and 36

Internet : <http://www.esc-kathrein.de>

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